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Abstract

The economy of Orissa has been lagging behind the national economy by several decades. Its per capita net state domestic product, a measure of average income, stood at Rs.20200 for 2006-07 which falls behind the national average by about 35 per cent. Moreover, the gross domestic product of the state grew by a considerable lower rate than many other states for a long time despite its high growth potential. Drawing on the experience of several countries as well as that of India, various studies concluded that economic growth was the most critical factor for reduction of incidence of poverty in the state. It now seems that there has been a turning point in the last few years and the economy of Orissa has witnessed an acceleration in terms of the gross state domestic product (GSDP). The evidence presented here clearly shows that the economy is poised for a take-off to a high growth phase, almost similar to that at the national level. On the poverty dimension, however, the recent developments have been gloomy, to say the least. The consumption expenditure surveys carried out by the National Sample Survey Organisation (NSSO), the standard source of data for poverty analysis in India by official and non-official investigators, shows that the period 1993-2004 has witnessed a reversal of the achievements made on the poverty front during 1983-93. The prima facie evidence points towards a case of growth without inclusion and needs further probe.

Key words: Gross State Domestic Product (GSDP), India, Poverty

JEL Codes: D31, I32, I38

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I. Introduction

The economy of Orissa has been lagging behind the national economy by several decades. Its per capita net state domestic product, a measure of average income, stood at Rs.20200 for 2006-07 which falls behind the national average by about 35 per cent. Moreover, the gross domestic product of the state grew by a considerable lower rate than many other states for a long time despite its high growth potential. Drawing on the experience of several countries as well as that of India, various studies concluded that economic growth was the most critical factor for reduction of incidence of poverty in the state.

It now seems that there has been a turning point in the last few years and the economy of Orissa has witnessed an acceleration in terms of the gross state domestic product (GSDP). The evidence presented here clearly shows that the economy is poised for a take-off to a high growth phase, almost similar to that at the national level. On the poverty dimension, however, the recent developments have been gloomy, to say the least. The consumption expenditure surveys carried out by the National Sample Survey Organisation (NSSO), the standard source of data for poverty analysis in India by official and non-official investigators, shows that the period 1993-2004 has witnessed a reversal of the achievements made on the poverty front during 1983-93. The *prima facie* evidence points towards a case of growth without inclusion and needs further probe.

To provide the reader with a quick background, we may briefly note that movement in poverty is affected by two factors: (a) growth in mean income or consumption, and (b) change in distribution parameter. Low per capita income growth along with near invariance of the distribution parameter led to little improvement in level of living of the poor in India for about three decades after independence. Incidence of poverty started to fall after mid-1970s at the all-India level when the economy moved to a high growth phase of above 5% per annum. In view of this and similar experience for other countries, generally agreed that

economic growth is an essential precondition in *practice*² for poverty reduction. Examining the India data over several decades, Ravallion and Datt (1996) showed that growth in mean consumption accounted for as much as 80% of the cumulative decline in poverty in India. Based on cross-country experience, international organizations such as the World Bank and the Asian Development Bank have often found that income elasticity of poverty lies between 1.5 to 2.0, meaning thereby a given growth in aggregate per capita income can reduce poverty more than proportionately³. Such partial elasticity estimates assumes constancy of income distribution which may not hold in practice for a specific country. After the reforms process started in 1991, India has of course witnessed higher economic growth but rate of poverty reduction has not been faster. The income elasticity of poverty in India seems to have reduced to 0.4 between 1993-94 and 2004-05 (Panda, 2008). In order to make the Indian growth process more broad based, the Planning Commission (2008) has recently advocated measures for ‘inclusive growth’.

Against the above background, it is a matter of concern that some key indicators for Orissa point towards a process of growth without inclusion. This paper makes a beginning by putting together this evidence. No doubt more elaborate scrutiny based on other data sources is needed for the non-inclusion hypothesis to hold. The following section deals with the evidence on acceleration of the growth in the state income. Section III examines movement in incidence of poverty at the aggregate level for rural and urban Orissa followed by disaggregated level analysis by social groups and by regions. Section IV makes some concluding remarks.

II. Upturn in Economic Growth

Orissa’s real GSDP has grown by an average annual rate of 4.8% on a long term basis during 1980-81 to 2006-07 compared to 6% for the same period for the nation as a whole. The index number of GSDP (with 1980-81 = 100.0) shown in Figure 1 nearly doubled over the 20 years period 1980-2000 and has further increased by another 60 per cent since then. In particular, the figure shows a sharp rise in the index after 2002-03. The average GSDP

² It is, of course, possible that poverty can reduce without growth if existing income or wealth is redistributed. Policy makers in liberal democracies have, however, found that it is easier to redistribute incremental national income rather than existing national income.

³ For a more recent review, see the Special Chapter in Asian Development Bank (2004).

growth rate of 8.6 per cent per annum during the period 2002-03 to 2006-07 compares very well with the national level⁴.

Figure 1: Index of Real GSDP in Orissa 1980-2006 (with 1980-81=100)

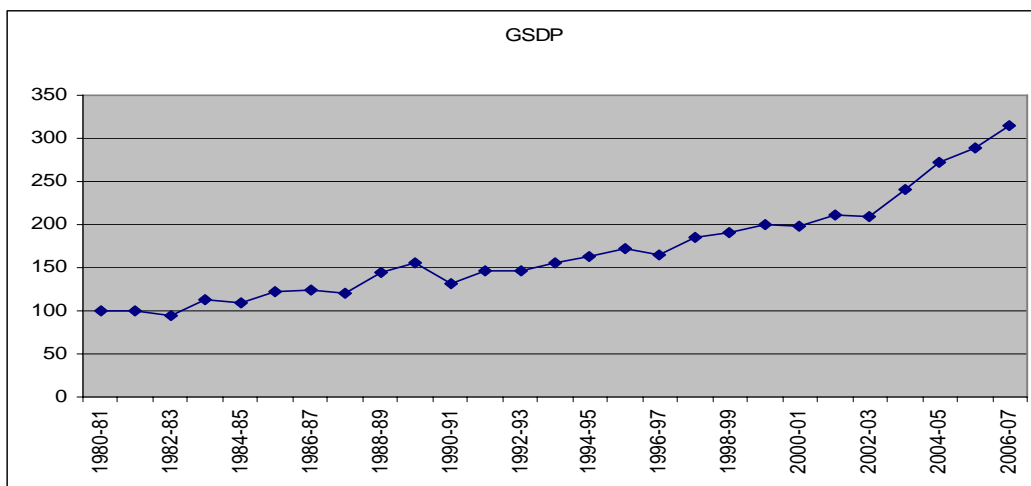
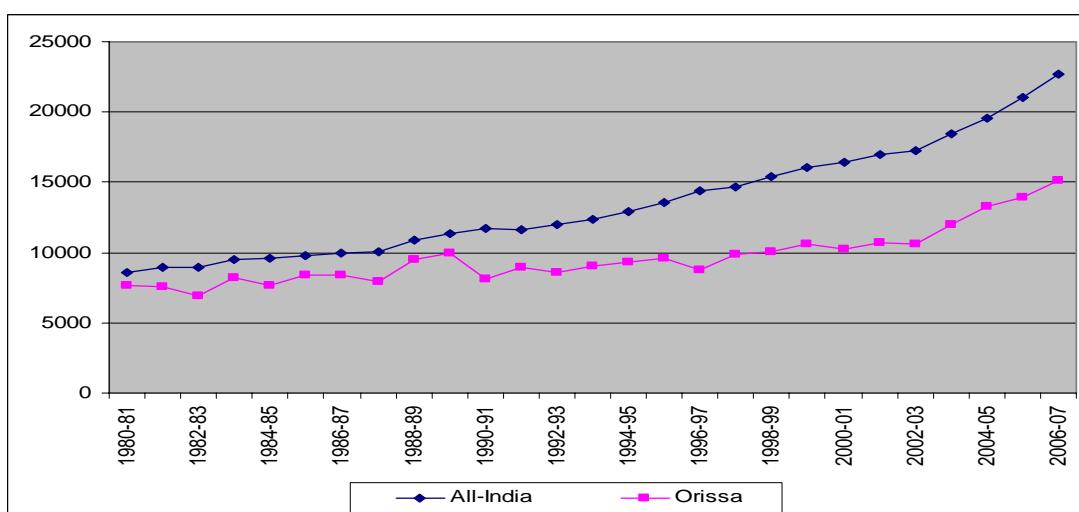


Figure 2: Per Capita Income (NDP) at 1999-2000 prices: Orissa and All-India

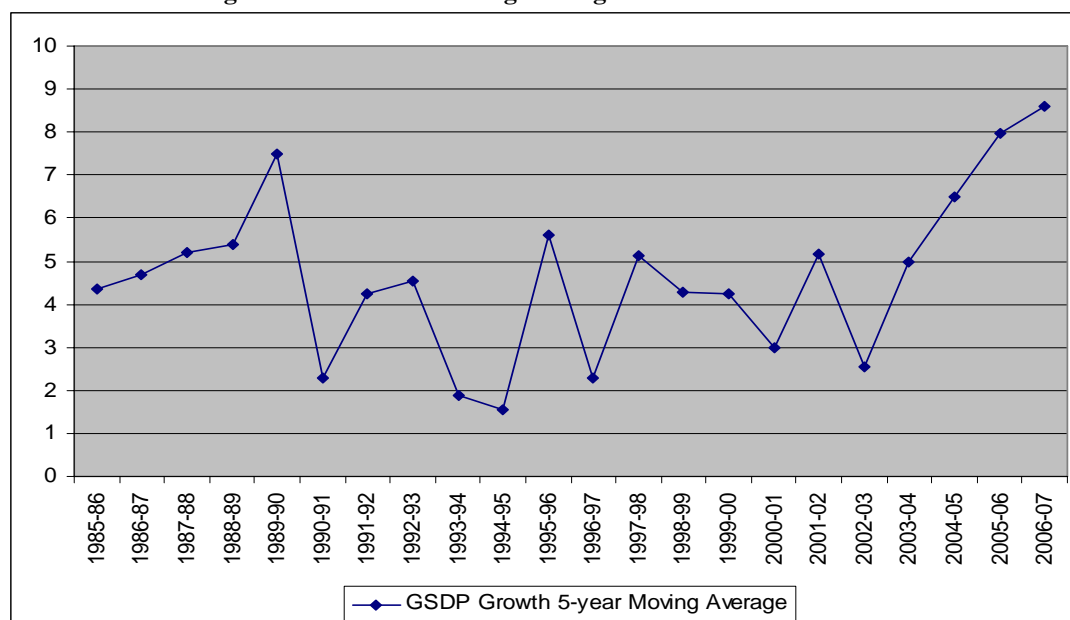


The per capita income of Orissa was about Rs.7700 at 1999-2000 prices in the year 1980-81. It nearly doubled to Rs.15100 in 2006-07 (Figure 2). Per capita income at the national level has grown by 160 per cent from about Rs.8600 to Rs.22700 during the same period. Orissa thus continues to remain behind the national average considerably. There have been attempts to bridge the gap and the growth rates noticed in recent years is the first major indicator of a move in that direction.

⁴ This is in line with estimates provided in Planning Commission (2008), Chapter 7.

Since the GSDP growth series is marked by large annual fluctuations partly driven by natural calamities, a question arises whether the recent upturn is an aberration. In order to get an idea about the underlying trend, Figure 3 plots the 5-year moving average series of the annual growth rates in GSDP, the averages being shown against the end years. This figure clearly reveals a rising trend since 2003-04. There thus seems to be an upturn for a high growth phase in Orissa. The only other time when a above 7 per cent average growth had been achieved earlier was the 5-year period ending 1989-90. The 1990s clearly was a lost decade for Orissa from economic growth point of view when it could not take advantage of the benefits of reforms.

Figure 3: Five Year Moving Average Series of GSDP Growth



Note: Average growth for 1981-82 to 1985-86 shown against the end year 1985-86 and so on.

Does the new trend noticed since 2003-04 represents a statistically significant higher growth in GSDP compared to the earlier period? We examine this question by carrying out semi-log regression on a time trend and a dummy variable using GSDP data for 1980-81 to 2006-07. Table 1 gives the regression results for the total GSDP as well as for GSDP originating from various sectors. The results do show a significant acceleration in the overall GSDP growth rate since 2003-04 driven by several sectors such as agriculture and allied activities, manufacturing, transport-storage-communication, trade-hotels- restaurants, real estate-ownership dwellings and business services. All three broad sectors – primary, secondary and services – have contributed to the higher growth. Notable exceptions have

been sectors such as construction, banking and insurance and public administration which experienced slow down in the growth rate. The mining and quarrying sector has been the fastest growing sector at above 10% per annum growth since 1980-81 and as such does not indicate any significant acceleration in recent years. Given that acceleration in aggregate income has been for a short period, the estimated long term trend growth rate remains small at 4.2 per cent in total GSDP.

As in any developing economy, the economy of Orissa has been going through structural changes away from agriculture in favour of industry and services. Primary sector accounted for most of income generated in the state in 1980-81. It has reduced to 32% in 2006-07. It might be noted that mining and quarrying sector plays a more important role in Orissa and income generated in this sector forms about 8% of total income. About 24% of state income is produced by agriculture and allied sectors. Share of secondary sector has increased from 17% to 23% and that of services from 30% to 44%. Compared to the all-India level, primary sector's share is about 12% more in Orissa and service sector's share is about 10% less (Figure 4). Share of the secondary sector in Orissa is nearly similar to that for all states taken together.

Another point of interest is contribution of various sectors to the changes in GSDP which is shown in Table 2. About a quarter of the incremental state income has come from registered manufacturing during 2003-06. The sector 'trade, hotels and restaurants' contributes another 17% and 'transport, storage and communication' another 13%. Given the low growth rate of agriculture, its contribution is limited to 15%. These four sectors together are thus responsible for as much as 70% of incremental GSDP during the high growth phase.

Figure 4: Percentage Composition of GDP: Orissa and India

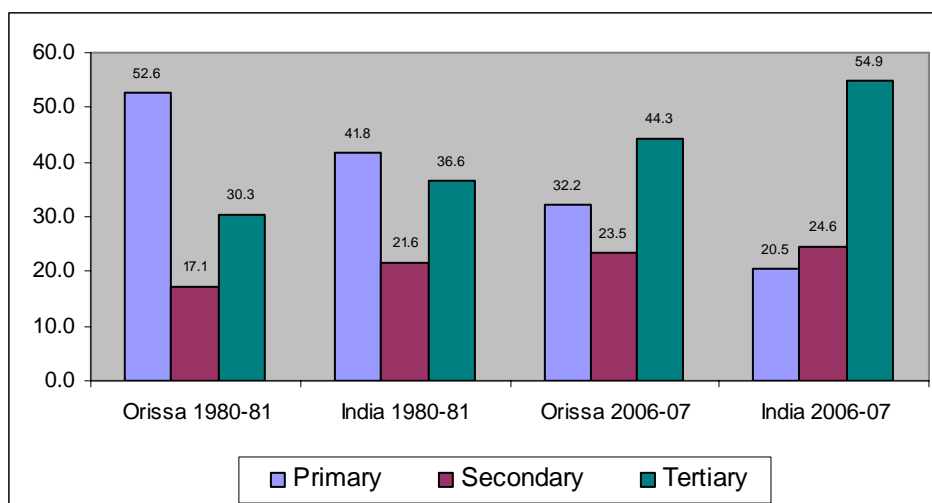


Table 1: Trend Growth rates in GSDP: 1980-81 to 2006-07

| Sector | Variables | |
|---|-------------------|--------------------|
| | Time T | D.T |
| Agriculture and Allied | 0.0027 (0.92) | 0.0045 (1.82) |
| Mining & Quarrying | 0.1085 (38.28) | 0.0031 (1.27) |
| Manufacturing | 0.0479 (10.88) | 0.0147 (3.88) |
| Construction | 0.0422 (13.69) | -0.0073 (-2.75) |
| Electricity gas and Water supply | 0.0359 (7.25) | 0.0055 (1.29) |
| Manufacturing-Registered | 0.0640 (9.48) | 0.0148 (2.55) |
| Manufacturing-Unregistered | 0.0239 (11.59) | 0.0033 (1.84) |
| Transport, storage & communication | 0.0694 (38.10) | 0.0092 (5.89) |
| Trade, hotels and restaurants | 0.0513 (24.18) | 0.0096 (5.26) |
| Banking & Insurance | 0.1019 (32.23) | -0.0050 (-1.85) |
| Real estate, ownership of dwellings and business services | 0.0287 (54.14) | 0.0037 (8.21) |
| Public administration | 0.0521 (27.07) | -0.0032 (-1.94) |
| Other services | 0.0737 (39.40) | -0.0014 (-0.87) |
| All Sectors | 0.0361 (21.47) | 0.0062 (4.31) |

Note: Estimated from regressions of the type: $\ln Y = a + b.T + c.D.T$ where
 Y = relevant income, T = time trend. Dummy variable $D = 1$ for 2003-04 to 2006-07 and 0 otherwise. Figures in brackets are t-values.

Table 2: Contribution of Various sectors to Incremental GSDP

| Sector | 2003-04 | 2004-05 | 2005-06 | 2006-07 | Average (03-06) |
|--|---------|---------|---------|---------|--------------------|
| 1 Agriculture | 40.0 | 7.6 | 11.2 | 3.0 | 15.4 |
| 2 Forestry & logging | -0.8 | 0.1 | 1.8 | 1.3 | 0.6 |
| 3 Fishing | 1.1 | -0.4 | -0.2 | 0.7 | 0.3 |
| 4 Mining & quarrying | 7.8 | 9.2 | 6.4 | 12.8 | 9.0 |
| 5 Manufacturing | 11.8 | 33.9 | 25.6 | 35.8 | 26.8 |
| 5.1 Manufacturing-Registered | 10.4 | 33.6 | 22.5 | 32.7 | 24.8 |
| 5.2 Manufacturing- Unregistered | 1.5 | 0.3 | 3.2 | 3.1 | 2.0 |
| 6 Construction | -5.7 | 6.1 | -8.2 | 5.0 | -0.7 |
| 7 Electricity, gas and Water supply | 11.8 | 6.7 | -7.5 | 1.9 | 3.2 |
| 8 Transport, storage & communication | 11.0 | 12.0 | 18.5 | 9.8 | 12.9 |
| 8.1 Railways | 0.9 | 0.8 | 2.0 | 1.2 | 1.2 |
| 8.2 Transport by other means | 6.5 | 8.3 | 12.1 | 5.3 | 8.1 |
| 8.3 Storage | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 8.4 Communication | 3.5 | 2.7 | 4.3 | 3.2 | 3.4 |
| 9 Trade, hotels and restaurants | 12.9 | 14.1 | 31.2 | 8.7 | 16.7 |
| 10 Banking & Insurance | -0.1 | 2.5 | 4.8 | 3.5 | 2.7 |
| Real estate, ownership of dwellings and business services | 2.2 | 2.8 | 4.8 | 4.7 | 3.6 |
| 12 Public administration | 3.4 | 1.6 | -2.1 | 4.2 | 1.8 |
| 13 Other services | 4.5 | 3.9 | 13.7 | 8.7 | 7.7 |
| 14 State domestic product | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

III. Downturn in Poverty Reduction

While there are clear signs of a significant acceleration in total state income in the medium run, incidence of poverty has hardly changed. Orissa shows the highest head count ratio (HCR) of poverty at 46.6 per cent in 2004-05 among the states in the country⁵. The overall percentage of poor has dropped by merely 2 percentage points from 48.6 per cent 1993-94 to 46.6 per cent in 2004-05 (Figure 5). When we examine poverty percentages separately by rural and urban areas (Figure 6), the same conclusion emerges. Thus, poverty has remained virtually invariant over a 11-year period despite the fact that per capita income has increased by 48% during this period. The elasticity of poverty with respect to per capita income is as low as 0.084 indicating very little percolation of growth to the poor. This unfortunate development is surprising since realization of faster poverty reduction has been a main argument for higher growth itself. Indeed, at the all-India level incidence of poverty recorded a downward trend since mid-1970s when national income growth rate increased to above 5 per cent per annum. It looks like the development experience of Orissa is an

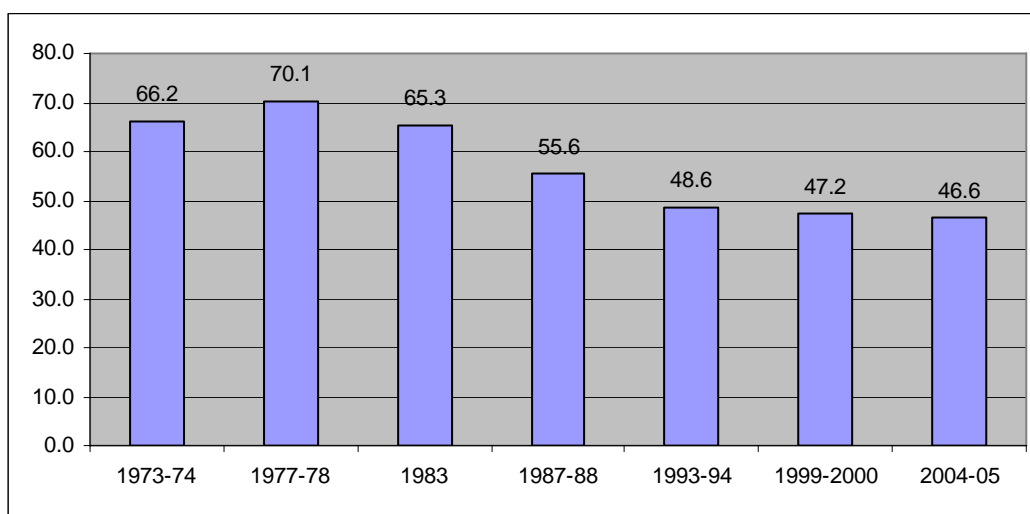
⁵ We use the 'uniform recall period' data for 61st round (2004-05) which are comparable with the data for all other rounds except the 55th round (1999-2000).

exception among the Indian states in so far as the elasticity of poverty with respect to per capita income is nearly zero during 1993-94 and 2004-05.

Figure 7 shows the number of people below the poverty line for different years of the NSSO quinquennial surveys. The number of poor persons in Orissa was 180 lakh in 1983; it fell to 161 lakh in 1993-94. A large reduction took place particularly over the period 1983 to 1987. But, number of poor has risen after 1993-94 to reach 179 lakh in 2004-05. Thus, the NSSO Central sample data shows that the gains achieved in reducing the number of poor in the decade 1983 to 1993 has been wiped out in the decade following 1993.

The first question that arises from above growth and poverty trends is whether inequality has risen during 1993-94 and 2004-05. The NSSO data shows that inequality has indeed increased in both rural and urban Orissa. Figure 8 depicts the Gini coefficient in consumption expenditure distribution. Inequality as revealed by this index has increased from 24.6 in 1993-94 to 28.8 in 2004-05 in rural areas and from 30.7 to 35.9 in urban areas.

Figure 5: Percentage of Poor in Orissa (Rural and Urban together)



Source: Government of Orissa: Economic Survey 2006-07

⁶ See, for example, Sen and Himanshu (2005).

Figure 6: Percentage of Poor in Orissa: Rural and Urban

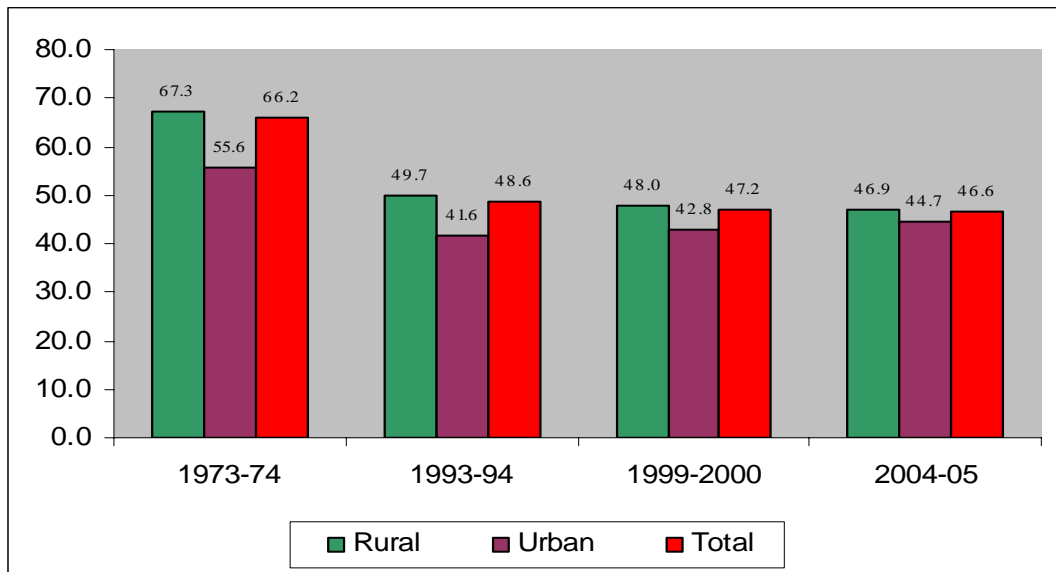


Figure 7: Number of Persons below Poverty Line (in Lakh)

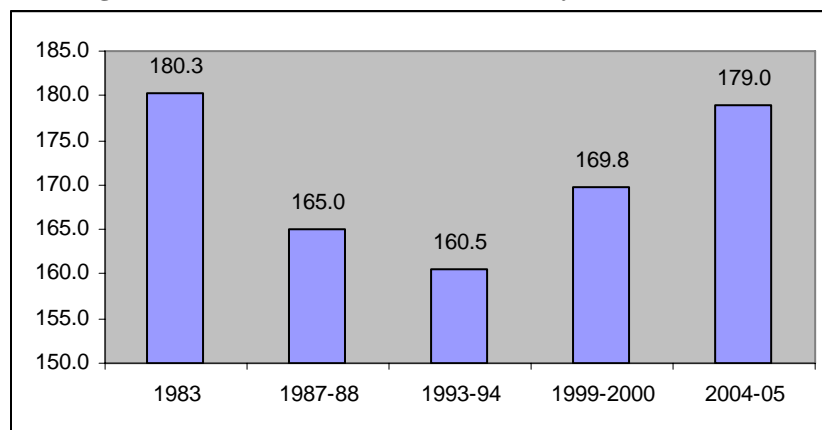
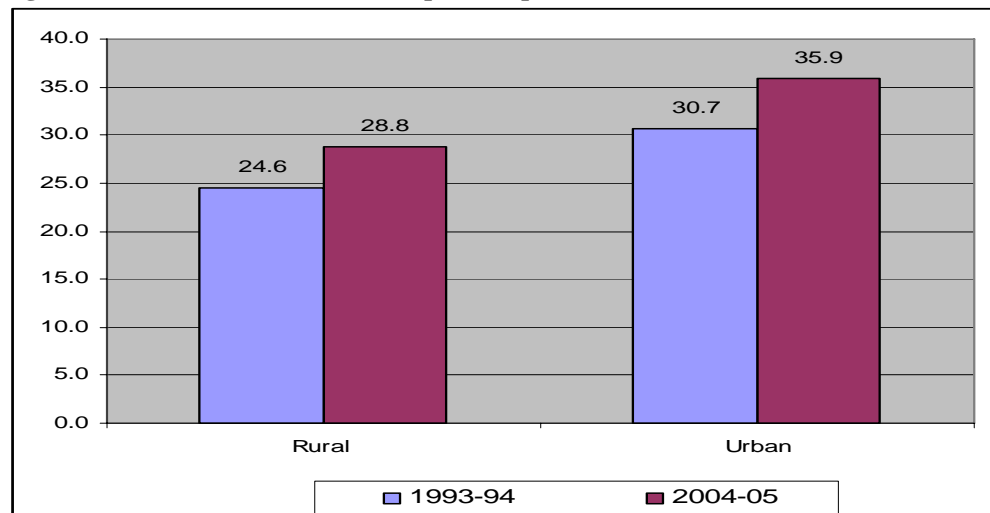


Figure 8: Gini Coefficient in Consumption Expenditure Distribution



Several other questions arise in this context. Did poverty reduce at least among some sections of the population? Did any of the regions benefit, if not all? How does the incidence of poverty vary across different socio-economic groups? Which group contributes more to total poor in the state? We turn below to some of these questions. Since the 1999-2000 NSSO data on consumption expenditure has attracted criticism from several quarters regarding comparability with other rounds due to mix-up of the recall periods⁷, we focus on 1993-94 and 2004-05 data for comparison.

Poverty by Social Group and Region

We first consider poverty by social groups In Table 3. Very high incidence of poverty prevails among the ST and SC population in the state. The head count ratio is as high as 76% among the ST population and 50% among the SC population compared to 37% for OBC group and 23% for Others in 2004-05. The ST and SC population account for 60% of the number of poor in the state as a whole while their share in total population is only 43% (25.6% and 17.6% of the total rural population are STs and SCs respectively as per the NSSO estimates in 2004-05). What is more important is the fact that proportion of ST remaining below the poverty line has increased from 71% in 1993 to 76% in 2004. There is no change in poverty percentage among SC population between 1993 and 2004. The two percentage points fall witnessed in poverty ratio for the entire population is exclusively due to fall in ‘OBC and Others’⁹ categories.

Next, we examine poverty incidence by region. The NSSO data permits analysis by three agro-climatic regions of the state: Coastal, Northern and Southern. Table 4 reports the prevalence of extent of poverty by regions in rural Orissa in 1993-94 and 2004-05. The Coastal region has the least poverty ratio and has experienced a large fall from 45% in 1993-

⁷ See, for example, Sen and Himanshu (2004).

⁸ It may be noted that the ‘OBC’ and ‘Others’ categories have been clubbed together in NSSO survey for 1993-94 and data are not available separately for them. Hence, we use the category ‘OBC and Others’ when comparison over time is made.

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94 to 27% in 2004-05. The Southern region, which has the highest poverty at 73% in 2004-05, has experienced an increase in poverty by 4 percentage points. The Northern region has witnessed the biggest rise in incidence of rural poverty from 46% in 1993-94 to 59% in 2004-05. A similar trend can be observed in urban areas too (Table 5), though the difference in poverty ratio across regions is not as large in urban areas as in rural areas. The rising incidence of poverty in the Northern region is indeed surprising since several new large scale manufacturing units have been established in this region in recent years. Is it that the benefits of industrialization have not percolated to the poor?

Table 3: Incidence of Poverty by Social Group: Rural Orissa

| Social Group | HCR | Contribution to poverty | MPCE |
|-------------------------|------------|--------------------------------|-------------|
| 2004-05 | | | |
| ST | 75.8 | 41.5 | 284.0 |
| SC | 49.9 | 18.7 | 363.0 |
| OBC | 37.1 | 31.1 | 435.0 |
| Others | 23.5 | 8.7 | 523.2 |
| OBC & Others | 32.9 | 39.8 | 462.0 |
| All groups | 46.9 | 100.0 | 398.9 |
| 1993-94 | | | |
| ST | 71.31 | 36.0 | 175.1 |
| SC | 49.8 | 18.5 | 212.0 |
| OBC & Others | 40.2 | 45.5 | 242.3 |
| All groups | 49.8 | 100 | 219.8 |

Source: Author's estimate based on NSSO data

Table 4: Incidence of Poverty by Regions: Rural Orissa

| Region | HCR | Contribution to poverty | MPCE |
|-----------------|------------|--------------------------------|-------------|
| 2004-05 | | | |
| Coastal | 27.4 | 27.1 | 465.5 |
| Southern | 72.7 | 28.9 | 292.5 |
| Northern | 59.1 | 44.0 | 367.3 |
| Total | 46.9 | 100.0 | 398.9 |
| 1993-94 | | | |
| Coastal | 45.3 | 43.0 | 226.6 |
| Southern | 68.8 | 25.3 | 179.3 |
| Northern | 45.9 | 31.7 | 232.0 |
| Total | 49.8 | 100.0 | 219.8 |

Source: Author's estimate based on NSSO data

Table 5: Incidence of Poverty and Related Variables by Regions: Urban Orissa

| Region | HCR | Contribution to poverty | MPCE |
|-----------------|------------|--------------------------------|-------------|
| 2004-05 | | | |
| Coastal | 44.1 | 49.1 | 773.5 |
| Southern | 55.1 | 12.4 | 790.8 |
| Northern | 42.9 | 38.5 | 728.9 |
| Total | 44.7 | 100.0 | 757.3 |
| 1993-94 | | | |
| Coastal | 47.2 | 53.7 | 377.8 |
| Southern | 41.9 | 14.8 | 412.5 |
| Northern | 32.5 | 31.5 | 427.9 |
| Total | 40.6 | 100.0 | 402.5 |

The above result indicates that whatever little poverty reduction has taken place in Orissa, the benefit has been confined to Coastal region. The questions then arises whether poverty has reduced among all the social groups in the Coastal region and whether poverty has increased among all social groups in other regions. In order to answer this question, we estimate HCR by classifying households by both region and social group. The HCR estimates with such two-way classification of households for rural areas¹⁰ are presented in Table 6. The HCR in Coastal Orissa has reduced for all the social groups between 1993-94 and 2004-05, though the reduction has been fastest for the group ‘OBC and Others’. In Northern Orissa, on the hand, poverty ratio has increased for all the groups and it is the SC group that has suffered the most. In Southern Orissa, poverty has increased considerably among SC and ST groups, but only marginally so for the ‘OBC and Others’ group. Thus, when we examine poverty by social groups within each region, there is mixed evidence on inclusiveness of the growth process.

¹⁰ This is not reported for urban areas since number of households in some cells become small. Anyway, urban poverty do not differ across regions as much as rural poverty.

Table 6: Head Count Ratio by Region and Social Group in Rural Orissa

| | ST | SC | OBC & Others | ALL Social Groups |
|--------------------|------|------|--------------|-------------------|
| HCR 2004-05 | | | | |
| Coastal | 67.7 | 32.8 | 22.4 | 27.4 |
| Southern | 82.8 | 67.2 | 59.6 | 72.7 |
| Northern | 72.8 | 64.4 | 46.0 | 59.1 |
| All | 75.8 | 49.9 | 32.9 | 46.9 |
| HCR 1993-94 | | | | |
| Coastal | 87.0 | 51.0 | 40.9 | 45.3 |
| Southern | 77.4 | 58.8 | 59.0 | 68.8 |
| Northern | 63.7 | 41.4 | 33.1 | 45.9 |
| All Regions | 71.3 | 49.8 | 40.2 | 49.8 |

IV. Concluding Remarks

Economic growth has been advocated as an essential condition for poverty reduction. In recent years, Orissa has substantially improved its growth rate in real gross state domestic product. This overall performance in doubt commendable against the low growth scenario for several decades. However, growth by itself is not a sufficient condition for poverty to fall since benefits of growth could easily be neutralised by rise in inequality. It is in the context of these twin factors that the evidence provided above on virtual stagnancy of incidence of poverty from the NSSO data for 2004-05 should be judged. Recent developments obviously calls for more attention to the equity angle to make the growth process broad based so that large sections of the population are not left behind¹¹. Otherwise, there is a danger that internal contradictions within the system could jeopardize growth itself.

In conclusion, we might note that the NSSO central sample is the most accepted database for analysis of poverty in India. The Planning Commission and other government agencies use this database to monitor poverty trends and design policies for poverty reduction. But, it might be useful to check if other available evidence support the stagnancy in poverty hypothesis. For example, an analysis of employment and wage data at a disaggregate level would help to understand condition of wage earners. Computation of poverty incidence using the consumption expenditure data collected in the employment and unemployment schedule for 1993-94 and 2004-05 could provide an alternative basis for judging changes in poverty. Similarly, a detailed analysis of the state sample data on

¹¹ Mahendra Dev et. al. (2004) advocate several such policies including more attention to agriculture and agro-based sectors.

consumption expenditure might provide new insights into the development process of Orissa. Given the importance of poverty trends on the design of development strategy for Orissa, a detailed examination of these and other possible alternative indicators could help in our understanding of the linkages of economic conditions of the poor with the growth process in the state.

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